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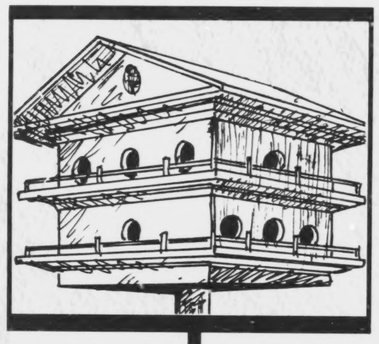
HOMES FOR BIRDS



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INTRODUCTION

It doesn't matter where you live--in an apartment, townhouse, or single family dwelling, in the city, suburbs or country. Just stand still and you'll hear them: wild birds. It's hard to imagine life without them.

Bird watching is one of the fastest growing hobbies in the country. It's easy to understand why. Birds are fun to watch.

And you can watch them just about everywhere. The most convenient place to start is right in your own backyard. All it takes to get their attention is water, food, and a place to build a nest.

This publication is designed to help you build or buy suitable homes--more correctly, nesting boxes--for birds. Your success in attracting birds will depend on what you know about birds and bird-house design. This booklet tells you what you need to know to get started:

--which birds nest in houses

--basics of bird-house construction

--proper placement

--good maintenance

--how to deal with predators

--monitoring.

BIRDS YOU CAN ATTRACT TO NEST BOXES

Many of the birds that visit feeders and baths may stay and nest in nearby trees. Most of them, including cardinals, doves and orioles, don't nest in boxes. You can still help them by considering their food and shelter requirements in your landscape plans. You can also hang out a wire cage full of nesting materials (fiber scraps, twigs, wool, or feathers) in the spring.

More than two dozen North American birds will nest in bird houses. The following descriptions will help you determine which birds might visit your neighborhood.

Bluebirds

If you put up a bluebird house near an old field, orchard, park, cemetery, or golf course, you'll have a good chance of attracting a pair of bluebirds. They prefer nest boxes on a tree stump or wooden fence post between three and five feet high. Bluebirds also nest in abandoned woodpecker nest holes. The most important measurement is the hole diameter. An inch and a half is small enough to deter starlings. Starlings and house sparrows have been known to kill baby bluebirds as well as adults sitting on the nest.

Bluebirds have problems with other animals too. The easiest way to discourage predatory cats, snakes,

raccoons, and chipmunks is to mount the house on a metal pole, or use a metal predator guard on a wood post.

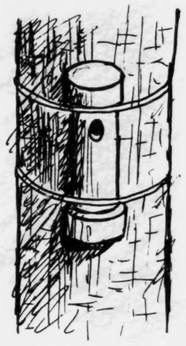
Robins

Robins are our largest thrushes. They prefer to build their nest in the crotch of a tree. If you don't have an appropriate tree, you can offer a nesting platform. Pick a spot six feet or higher up on a shaded tree trunk or under the overhang of a shed or porch. Creating a "mud puddle" nearby offers further excitement, as robins use mud to line their nests.

Chickadees, Nuthatches, and Titmice

Chickadees, titmice, and nuthatches share the same food, feeders, and habitats. If you put a properly designed nest box in a wooded yard, at least one pair is sure to check it out.

Put chickadee houses at eye level. Hang them from limbs or secure them to tree trunks. The entrance hole should be 1-1/8" to attract chickadees yet exclude house sparrows.



Anchor houses for titmice and nuthatches on tree trunks five to six feet off the ground.

You can encourage these birds to stay in your yard by continuing to fill your suet and peanut feeders through the summer.

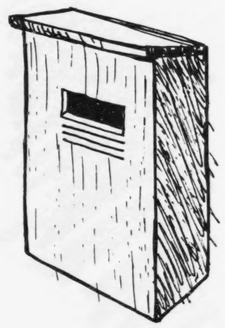
Brown Creepers and Prothonotary Warblers

Look for brown creepers to nest behind the curved bark of tree trunks. In heavily wooded yards, slab bark houses will appeal to creepers. Prothonotary warblers also prefer slab bark houses, but theirs must be placed over water.

Wrens

Wrens don't seem to be very picky about where they nest. Try nest boxes with a 1"x 2" horizontal slot (1-1/2"x 2-1/2" for the larger Carolina wrens) instead of a circle. These are easier for the wrens to use.

Wrens are notorious for filling up any conceivable nest cavity with twigs, regardless of whether they use the nest. Since male house wrens build several nests for the female to choose from, hang several nest boxes at eye level on partly sunlit tree limbs. Wrens are sociable and will accept nest boxes quite close to your house.



Swallows

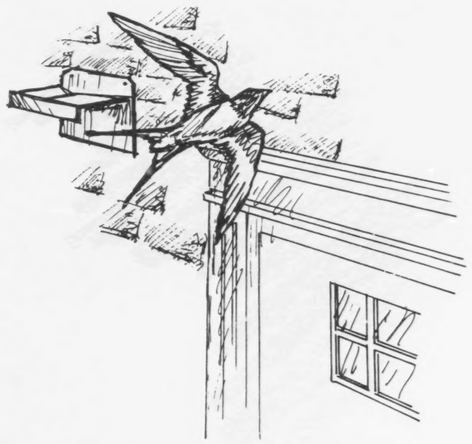
Tree swallows prefer nest boxes attached to dead trees. Space the boxes about seven feet apart for these white-bellied birds with iridescent blue-green backs and wings. The ideal setting for these insect-eaters is on the edge of a field near a lake, pond, or river.

Violet green swallows nest in forested mountains of the west.

Boxes placed on large trees in a semi-open woodland will attract them.

Barn Swallows and Phoebes

If you have the right habitat, barn swallows and phoebes are easy to attract. It's their nesting behavior, not their plumage or song, that catches your attention. These birds tend to nest where you'd rather not have them: on a ledge right over your front door. To avoid a mess by your door, offer the birds a nesting shelf nearby where you'd rather have them.

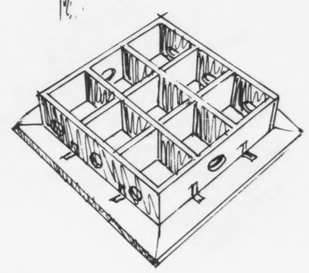


Purple Martins

Many people want martins because, it's been said, these birds "can eat 2,000 mosquitoes a day." While it's true that they eat flying insects, don't expect purple martins to wipe out your mosquitoes. Martins actually prefer dragonflies, insects which prey on mosquito larvae.

Mosquitoes are most active after sunset. If you want to rid your yard of mosquitoes, put up a bat roosting box. One bat can eat thousands of mosquitoes a night.

But don't cross martins off your propective tenant list because they don't live up to their "bug zapping" reputation. If you need a reason for attracting them, these gregarious swallows put on a show that's better than any television soap opera.



You have the best chance of attracting martins if you put a house on the edge of a pond or river, surrounded by a field or lawn. Martins need a radius of about 40 feet of unobstructed flying space around their houses. A convenient wire nearby gives them a place to perch in sociable groups.

Martins nest in groups, so you'll need a house with a minimum of four large rooms-- 6 or more inches on all sides, with a 2-1/2 inch entrance hole about an inch and a half above the floor.

Ventilation and drainage are critical factors in martin house design. Porches, railings, porch dividers and supplemental roof perches, like a TV antenna, will make any house more appealing.

Gourds may also be made into houses by making an entrance hole and providing drainage. If you use gourds, it's **not** necessary to add railings and perches. Adult martins will perch on the wire used to hang the houses.

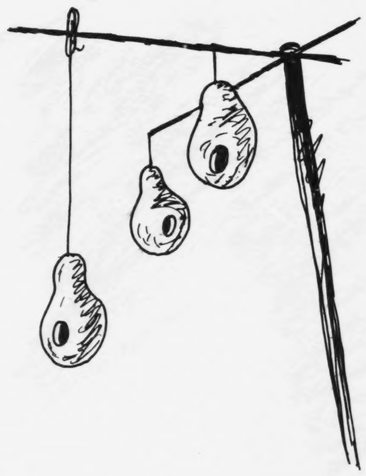
Before you decide on a house, take the time to think about what kind of pole you're going to put it on. Martins will occupy a house that's between ten and twenty feet off the ground. Some poles are less cumbersome than others.

Gourd houses are the easiest to set up. You can string them:

--from a wire between two poles

--from a sectional aluminum pole

--on pulleys mounted to cross-bar high up on a pole.



Light-weight aluminum houses can be mounted on telescoping poles, providing easy access for maintenance and inspection. Because of their weight (well over 30 pounds), wood houses cannot be mounted on easy-access telescoping poles. You'll have to use a sturdy metal or wood pole attached to a pivot post. The problem with this "lowering" technique is that you can't tilt the house without damaging the nests inside. If you put your house on a shorter, fixed pole, ten to twelve feet high, you can use a ladder to inspect and maintain it.

Flycatchers

The great crested flycatcher and its western cousin, the ash-throated flycatcher, are common in wooded suburbs. Their natural nesting sites are abandoned woodpecker holes.

These flycatchers may nest in a bird house if it's placed about ten feet up in a tree in an orchard or at the edge of a field or stream.

Woodpeckers

You can attract all the woodpeckers with a suet feeder, but only the flicker and the red-bellied are likely to use a bird house. They prefer a box with roughened interior and a floor covered with a two-inch layer of wood chips or coarse sawdust. Flickers are especially attracted to nest boxes filled with sawdust, which they "excavate" to suit themselves.

For best results, place the box high up on a tree trunk exposed to direct sunlight.

Owls

Most owls seldom build their own nests. Great horned and long-eared owls prefer abandoned crow and hawk nests. Other owls (barred, barn, saw-whet, boreal and screech) nest in tree cavities and bird houses.

Barn owls are best known for selecting nesting sites near farms. Where trees are sparse, these birds will nest in church steeples, silos, and barns. If you live near a farm or a golf course, try fastening a nest box about 15 feet up on a tree trunk.

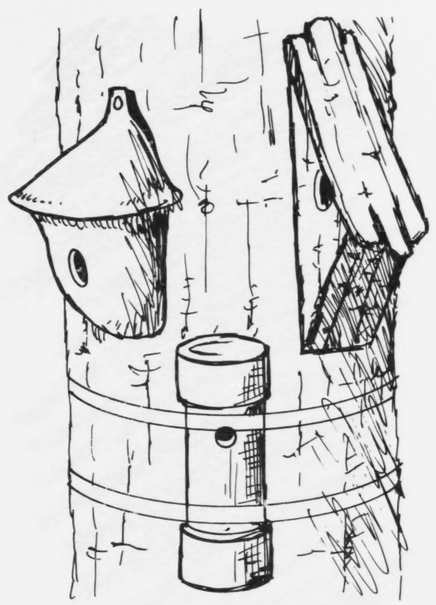
Screech owls prefer abandoned woodpecker holes at the edge of a field or neglected orchard. They will readily take to boxes lined with an inch or two of wood shavings. If you clean the box out in late spring after the young owls have fledged, you may attract a second tenant--a kestrel. Trees isolated from larger tracts of woods have less chance of squirrels taking over the box.

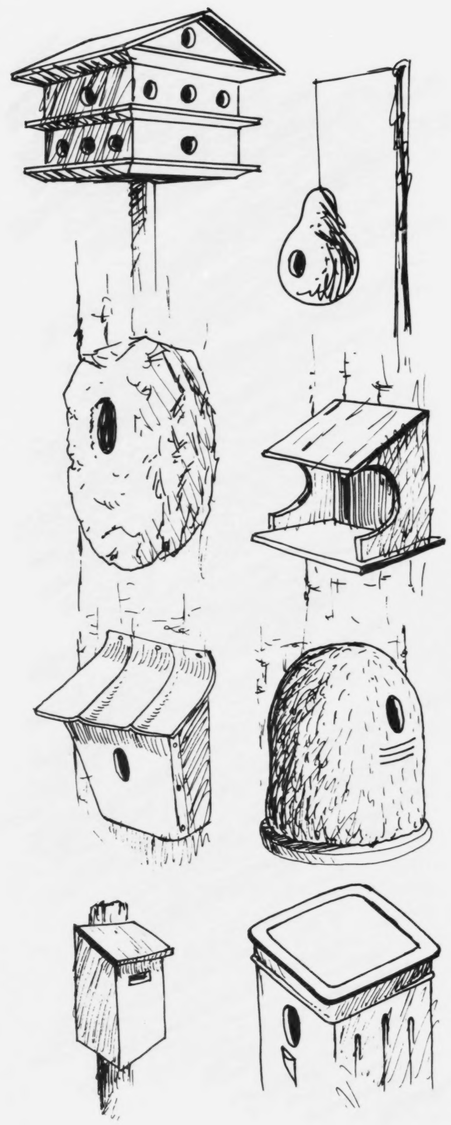
SELECTING A HOUSE

In the bird house business, there's no such thing as "one size fits all." You need to decide which bird you want to attract, then get a house for that particular bird.

Look through any book or catalog and you'll see bird houses of all sizes and shapes, with perches and without, made of materials you might not have thought of: recycled paper, gourds, plastic, rubber, pottery, metal, and concrete.

So what makes a "good" bird house? It's a combination of quality materials and design.





MATERIALS

Of all the available building materials, wood is about as good as you can get. It's durable, has good insulating qualities, and it breathes. Three-quarter-inch-thick bald-cypress and red cedar are recommended. Pine and exterior grade plywood will do, but they're not as durable.

It makes no difference whether the wood is slab, rough-cut or finished, as long as the inside has **not** been treated with stains or preservatives. Fumes from the chemicals could harm the birds.

There's no need to paint cypress and cedar, but pine and plywood houses will last longer with a coat of water-based exterior latex paint. White is the color for purple martin houses. Tan, gray, or dull green works best for the other cavity nesting species. The dull, light colors reflect heat and are less conspicuous to predators. Don't paint the inside of the box or the entrance hole.

Regardles of which wood you select, glueing all the joints before you nail them will extend the life of your bird house. Galvanized or brass shank nails, hinges, and screws resist rusting and hold boxes together more tightly as they age.

Resist the temptation to put a metal roof on your bird house. Reflective metal makes sense for martin houses up on a sixteen-foot pole, but when it's tacked onto a roof of a wood chickadee house, the metal is more likely to attract predators.

Natural gourds make very attractive bird houses. They "breathe,"and because they sway in the wind are less likely to be taken over by house sparrows and starlings.

Grow your own gourds and you'll have dozens to choose from in the years ahead. If you don't have the space to grow them, a coat of polyurethane or exterior latex (on the outside only) will add years to the one you have.

Properly designed pottery, aluminum (for purple martins only), concrete, and plastic houses will breathe and are durable, but don't drop them.

Be sure to provide ventilation, drainage, and easy access for maintenance and monitoring. Concrete (actually a mix of concrete and sawdust) offers protection other houses cannot: squirrels cannot chew their way in.

Design

How elaborate you make your bird house depends on your personal sense of aesthetics. For the most part, all the birds care about is their safety and the right dimensions: box height, depth and floor, diameter of entrance hole, and height of hole above the box floor. Refer to the following chart, keeping in mind that birds make their own choices, without regard for charts. So don't be surprised when you find tenants you never expected in a house you intended for someone else.

NEST BOX DIMENSIONS

Species	Box depth inches	Box height inches	Entrance height inches	Entrance diameter inches	Placement height feet
American Robin+	7x8	8	–	–	6-15
Eastern and Western Bluebird	5x5	8-12	6-10	1-1/2	4-6
Mountain Bluebird	5x5	8-12	6-10	1-1/2	4-6
Chickadees	4x4	8-10	6-8	1-1/8	4-15
Titmice	4x4	10-12	6-10	1-1/4	5-15
Ash-throated Flycatcher	6x6	8-12	6-10	1-1/2	5-15
Great Crested Flycatcher	6x6	8-12	6-10	1-3/4	5-15
Phoebes+	6x6	6	–	–	8-12
Brown-headed Pygmy and Red-Breasted Nuthatch	4x4	8-10	6-8	1-1/4	5-15
White-breasted Nuthatch	4x4	8-10	6-8	1-3/8	5-15
Prothonotory Warbler	5x5	6	4-5	1-1/8	4-8
Barn Swallow +	6x6	6	–	–	8-12
Purple Martin	6x6	6	1-2	2-1/4	6-20
Tree and Violet-Green Swallows	5x5	6-8	4-6	1-1/2	5-15
Downy Woodpecker	4x4	8-10	6-8	1-1/4	5-15
Hairy Woodpecker	6x6	12-15	9-12	1-1/2	8-20

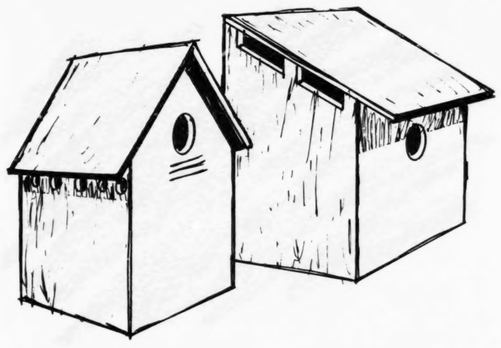
Species	Box depth inches	Box height inches	Entrance height inches	Entrance diameter inches	Placement height feet
Lewis' Woodpecker	7x7	16-18	14-16	2-1/2	12-20
Northern Flicker	7x7	16-18	14-16	2-1/2	6-20
Pileated Woodpecker	8x8	16-24	12-20	3x4	15-25
Red-Headed Woodpecker	6x6	12-15	9-12	2	10-20
Yellow-bellied Sapsucker	5x5	12-15	9-12	1-1/2	10-20
Bewick's and House wrens	4x4	6-8	4-6	1-1/4	5-10
Carolina Wren	4x4	6-8	4-6	1-1/2	5-10
Barn Owls	10x18	15-18	4	6	12-18
Screech Owls Kestrel	8x8	12-15	9-12	3	10-30
Osprey	48x48 platform				
Red-tailed Hawk and Great Horned Owl	24x24 platform				
Wood Ducks	10x18	10-24	12-16	4	10-20

+Use nesting shelf, platform with three sides and an open front.

Now that you have the correct dimensions for your bird house, take a look at how to make it safe: ventilation, drainage, susceptibility to predators, and ease of maintenance.

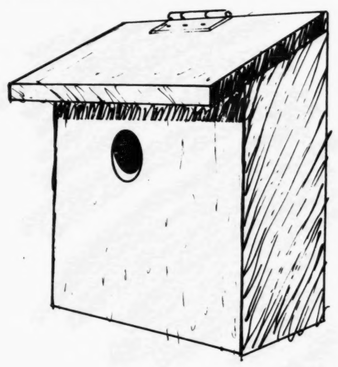
Ventilation

Without air vents, boxes can turn into bird ovens. There are two ways to provide ventilation: leave gaps between the roof and sides of the box, or drill 1/4" holes just below the roof.

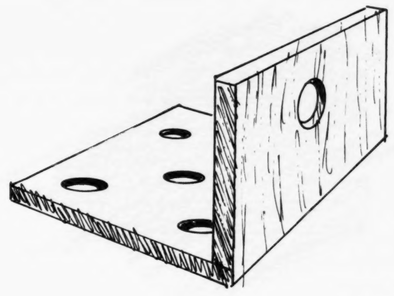


Drainage

Water becomes a problem when it sits in the bottom of a bird house. A roof with sufficient slope and overhang offers some protection. Drilling the entrance hole on an upward slant may also help keep the water out.



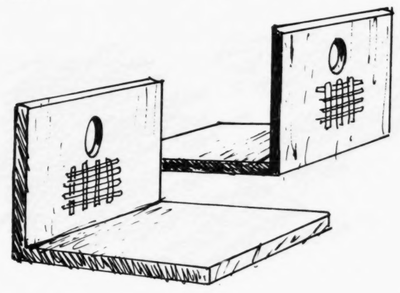
Regardless of design, driving rain will get in through the entrance hole. You can assure proper drainage by cutting away the corners of the box floor and by drilling 1/4 inch holes in the box floor. Nest boxes will last longer if the floors are recessed about 1/4 inch.



Entrance Hole

Look for the entrance hole (and exit) hole on the front panel near the top. A rough surface both inside and out makes it easier for the adults to get into the box and, when it's time, for the nestlings to climb out.

If your box is made of finished wood, add a couple of grooves outside below the hole. Open the front panel and add grooves, cleats, or wire mesh to the inside.



Never put up a bird house with a perch below the entrance hole. Perches offer starlings, house sparrows, and other predators a convenient place to wait for lunch.

Don't be tempted by those beautiful duplexes or houses that have more than one entrance hole. With the exception of purple martins, cavity-nesting birds prefer **not** to share a house. While these condos look great in your yard, starlings and house sparrows are the only birds inclined to use them.

Accessibility

Bird houses should be easily accessible so you can see how your birds are doing and, when the time comes, clean out the house.

Part of being a responsible bird house landlord is your willingness to watch out for your tenants. Monitor your bird houses every week and evict unwanted creatures: house sparrows, starlings, rodents, snakes, and insects.

Be careful when you inspect your bird boxes. You may find something other than a bird inside. Don't be surprised to see squirrels, a mouse, a snake, or insects. Look for fleas, flies, mites, larvae, and lice in the bottom of the box.

If you find insects and parasites, your first reaction may be grab the nearest can of insect spray. If you do, use only insecticides known to be safe around birds: 1% rotenone powder or pyrethrum spray. If wasps are a problem, coat the inside top of the box with bar soap.

Here's how to check your nest boxes:

Watch the nest for awhile. If you don't see or hear any birds, go over and tap on the box. If you hear bird sounds, open the top and take a quick peek inside. If everything's okay, close the box. If you see problems (parasites or predators), remove them and close the box.

Here's where a bird house with easy access makes the job simple. Most bird houses can be opened from the top, the side, the front, or the bottom.

Boxes that open from the top and the front provide the easiest access. Opening the box from the top is less likely to disturb nesting birds. It's impossible to open a box from the bottom without the nest falling out. While side- and front-opening boxes are convenient for cleaning and monitoring, they have one drawback: the nestlings may jump out.

If this happens, don't panic. Just pick them up and put them back in the nest. Don't worry that the adults will reject the nestlings if you handle them. That's a myth. Most birds have a terrible sense of smell.

If you clean out your nest boxes after each brood has fledged, several pairs may use the nest throughout the summer. Many cavity nesting birds will not nest again in a box full of old nesting materials.

In the fall, after you've cleaned out your nest boxes for the last time, you can put them in storage or leave them out. Gourds and pottery last longer if you take them in for the winter. You can leave your purple martin houses up, but be sure to plug the entrance holes to discourage starlings and house sparrows.

Leaving your wood and concrete houses out provides shelter for birds, flying squirrels, and other animals during winter.

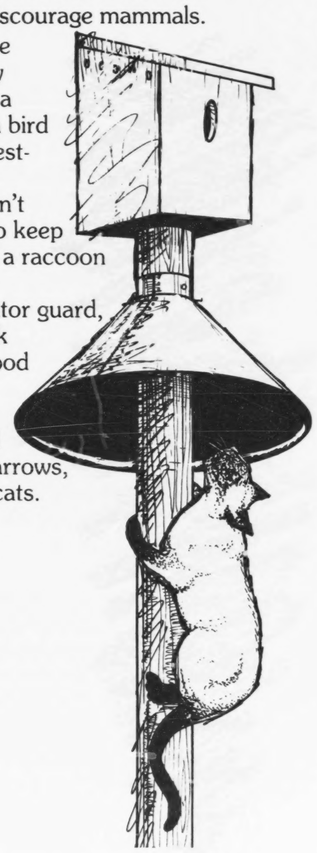
Each spring be sure to clean out all houses you've left out for the winter.

Predator Access

Proper box depth, roof, and entrance hole design will help minimize predator (raccoons, cats, opossums, and red squirrels) access. Sometimes all it takes is an angled roof with a three-inch overhang to discourage mammals.

The entrance hole is the only thing between a predator and a bird house full of nestlings. By itself, the 3/4" wall isn't wide enough to keep out the arm of a raccoon or house cat.

Add a predator guard, a 3/4 inch thick rectangular wood block, to thicken the wall, and you'll discourage sparrows, starlings, and cats.



BIRD HOUSE PLACEMENT

Habitat

Where you put your bird house is as important as its design and construction. Cavity nesting birds are very particular about where they live. No matter how perfect your nest box, if you don't have the right habitat, the birds aren't likely to find it.

Not everyone has the habitat for a wood duck, purple martin, or screech owl. On the other hand, just about anyone can attract a robin, titmouse, wren, or chickadee.

Placement

Let's assume you've built or bought the "perfect" house. You put it out in your backyard in February. Months pass, and not one bird has landed on it. What's wrong?

It may be that you don't have the right habitat, or it may be where you put the house.

There's lots you can do to modify your land to attract the birds you want to see. It can be as simple as putting out a bird bath or as complicated as planting fruit-bearing shrubs or installing a pond with a waterfall.

But it's much easier just to identify the birds most likely to take to your backyard as it is and put the appropriate nest box in the right place.

Should you hang it from a tree limb, nail it to a fence, or mount it on a pole or a tree trunk?

There's a wide range between how high and low you can place a nest box. Pick a height that's convenient for you. After all, you'll want to watch what goes on and keep the box clean. If you want to watch chickadees from your second floor window or deck, fifteen feet is not unreasonable but it's a lot easier to clean out a box at eye level.

Here are some tips on where to put bird houses:

--houses mounted on metal poles are less vulnerable to predators than houses nailed to tree trunks or hung from tree limbs.

--use no more than four small nest boxes for any one species or one large box per acre.

--put about 100 yards between bluebird boxes and 75 yards between swallow boxes (if you have both species, "pair" the houses with one bluebird box 25 feet from a swallow box. Put the "pair" 100 yards away.)

--don't put bird houses near bird feeders.

--don't put more than one boxx in a tree, unless the tree is extremely large or the boxes are for different species.

--if you have very hot summers, face the entrance holes of your boxes north or east to avoid overheating the box.

PROTECTION FROM PREDATORS

Nesting birds are very vulnerable to cats, as are fledglings and birds roosting for the night. Bell collars on cats offer birds little protection. Nailing a sheet metal guard or cone to a tree trunk is unsightly, but it may deter less agile felines. Houses mounted on metal poles are the most difficult for predators to reach, especially if you smear the poles with axle grease.

Dogs

Pet dogs are a hazard to nestlings in the spring and summer. All it takes is one swift bite and the baby bird is gone. Don't let your dog run loose during nesting time.

Squirrels

Red squirrels, and sometimes gray squirrels, can become a serious menace to bird houses and the birds themselves. If you find your nest hole enlarged, chances are a red squirrel is the culprit. Once inside the box, squirrels make a meal of the eggs and young.

Adding a predator guard of sheet metal to the entrance hole is usually enough to keep squirrels out.

Raccoons and Opossums

Raccons and opossums will stick their arms inside nest boxes and try to pull out the adult, young, and eggs. Adding a predator guard to the bird house or to its pole support is a simple solution.

Snakes

Snakes are an important part of the natural balance between predator and prey. If you find one of these reptiles in your bird house, please don't kill it.

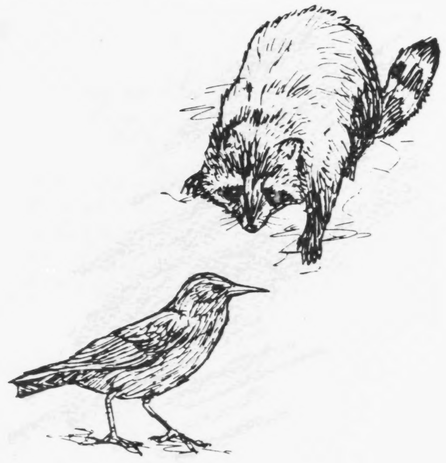
Snake-proof your house by putting it on a metal pole lathered with vaseline or hot red cayenne pepper.

House Sparrows and Starlings

If you don't discourage them, these two pest species introduced from Europe will bully or kill cavity-nesting birds. Since house sparrows and starlings are not protected by law, you may destroy their nests. But, remember, other birds are protected by law.

House Wrens

Sometimes house wrens interfere with the nesting success of other birds by puncturing their eggs. But unlike the sparrow and starling, these birds are part of the natural system. They are protected by law. Don't be tempted to intervene.



Insects

Many insects lay their eggs and pupate in bird houses. You should inspect your bird houses for signs of gypsy moths, blow flies, wasps, ants, gnats, and bees.

You can keep bees and wasps from attaching their nests by coating the inside of the roof with bar soap. In areas where gypsy moths abound, avoid placing boxes in oak trees, which are favored by the gypsy moths.

Pyrethrin and rotenone insecticides are recommended for killing fly larvae, bird lice, and mites after birds have finished nesting for the season.

PROTECTING BIRD HABITAT

Each year your State wildlife agency, private conservation groups, and the U.S. Fish and Wildlife Service work together to acquire and manage millions of acres of wetland habitat--swamps, ponds, lakes, and marshes. These wetlands provide nesting habitat for songbirds and shorebirds, ducks and geese, hawks and owls.

You can help preserve wetlands for wildlife by buying Federal Duck Stamps at your local post office. Money from sales of these Stamps is used to buy more wetlands. For more information write: Director, U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240.

SUGGESTED READING

A Field Guide to the Birds of North America by Robbins, Brunn, Zim, and Singer. Golden Press, 1983.

Trees, Shrubs, and Vines for Attracting Birds by Richard DeGraff and Gretchen Wit. University of Massachusetts Press, 1979.

How to Attract Birds by Ortho Books, 1983.

30 Birds That Will Nest in Birdhouses by R.B. Layton, Nature Book Publishing Company, 1977.

The Birder's Handbook: A Field Guide to the Natural History of North American Birds by Paul Ehrlich, David Dobkin, and Darryl Wheye. Simon and Schuster, 1988.

The Bluebird: How You Can Help Fight For Its Survival by Lawrence Zeleny. Indiana University Press, 1976.

Planting A Refuge for Wildlife: How to Create A Backyard Habitat for Florida's Birds and Beasts by Cerulean, Botha, and Legare. Florida Game and Freshwater Fish Commission, Tallahassee.

American Wildlife and Plants: A Guide to Wildlife Food Habits by Martin, Zim, and Nelson. Dover Publications, 1961.

A Field Guide to the Nests, Eggs, and Nestlings of North American Birds by Colin Harrison. Viking Press, 1984.

The New Handbook of Attracting Birds by Thomas P. McElroy, Jr. W.W. Norton & Company, 1960.

Woodworking For Wildlife by Carrol Henderson. Minnesota Department of Natural Resources, St. Paul, 1984

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